Electronic Version

Stylesheet Version v1.1.1

TWO-DIMENSIONAL PHOTONIC CRYSTAL CAVITY AND CHANNEL ADD/DROP FILTER

Abstract

In 2D photonic crystals, cavities having a heightened Q factor are made available, wherein combining the high Q cavities with waveguides affords channel add/drop filters having high resolution. In a cavity constituted by a point defect within a 2D photonic crystal, the 2D photonic crystal is configured by an arrangement, in a two-dimensional lattice of points defined in a slab (1), of low-refractive-index substances (2) having a low refractive index relative to the slab (1) and being of identical dimension and shape. The point defect (4) contains a plurality of three or more lattice points that neighbor one another, and in these lattice points no low-refractive-index substances (2) are arranged; therein the low-refractive-index substance (2) that should be arranged to correspond to at least one of the lattice points nearest the point defect (4) is arranged displaced by a predetermined distance from that lattice point.